

ABSTRACT

A multi-step method of forming a coating on a substrate, such as a stent or graft, is disclosed. The steps of the method include treating the surface with a plasma formed at or near atmospheric pressure to form one or more active species on the surface until a desired surface density of the active species is formed, and exposing the treated surface to a selected gas or liquid under conditions effective to convert the active species to a stable functional group. The exposed surface surface may be contacted with a surface-modifying group under conditions effective to covalently attach the surface-modifying group to the functional group. Also disclosed is a substrate having a bioactive/biocompatible coating and/or a drug-releasable coating prepared by the method.